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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/599,281

09/25/2006

Tsutomu Oishi

ASAIN0190

6474

24203 7590 10/08/2009
GRIFFIN & SZIPL, PC
SUITE PH-1
2300 NINTH STREET, SOUTH
ARLINGTON, VA 22204

EXAMINER

COLE, ELIZABETH M

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

10/08/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/599,281	OISHI ET AL.	
	Examiner	Art Unit	
	Elizabeth M. Cole	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 5-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/25/06</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1794

1. Applicant's election without traverse of Group I, claims 1-4 in the reply filed on 7/8/09 is acknowledged.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-010871 in view of Oishi et al, U.S. patent No. 5,895,897 and Beall et al, U.S. Patent No. 4,464,475. JP '871 discloses a highly porous material having a density of 0.05-1.0 grams/cc which encompasses the claimed range, (see paragraph 0006 of the attached machine translation) comprising silicon carbide fibers in a ceramic matrix. JP '871 discloses that the silicon carbide fibers have an oxygen content of 1% (see paragraph 00014), which meets the limitations of claim 3, which recites an oxygen content of 1-13 wt % and teaches that the fibers can further comprise an element such as boron, (see paragraph 0023), which would presumably produce a fiber having the properties set forth in claim 3. JP '871 differs from the claimed invention because it does not disclose the claimed porosity and while it teaches various compounds including boron compounds as the matrix component, it does not teach the claimed heat resistance. With regard to the porosity, since JP '871 teaches the claimed bulk density and since Oishi teaches suitable porosities for light weight ceramic fiber reinforced materials useful for sound absorption are 80-92%, it would have been obvious to have controlled the process of JP '871 to form a material having a porosity of greater than

Art Unit: 1794

90% as taught by Oishi, assuming that the material having the bulk densities of JP '871 did not already possess the claimed porosity, since porosity and density are related, in that a less dense material is a more porous material.

4. With regard to the claimed heat resistance, while it appears that the materials of JP '871 would inherently possess the claimed heat resistance, JP '871 does not specifically teach this feature and does not teach the compound set forth in claim 4. However, Beall teaches that boron osumilite can be used to prepare silicon carbide reinforced composite materials. The instant specification teaches that boron osumilite has the claimed heat resistance. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed the particular boron osumilite compound taught in Beall as the heat resistant boron matrix material in JP '871, in view of its art recognized suitability for the purpose of forming silicon carbide fiber reinforced composite materials.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

Application/Control Number: 10/599,281
Art Unit: 1794

Page 4

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

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